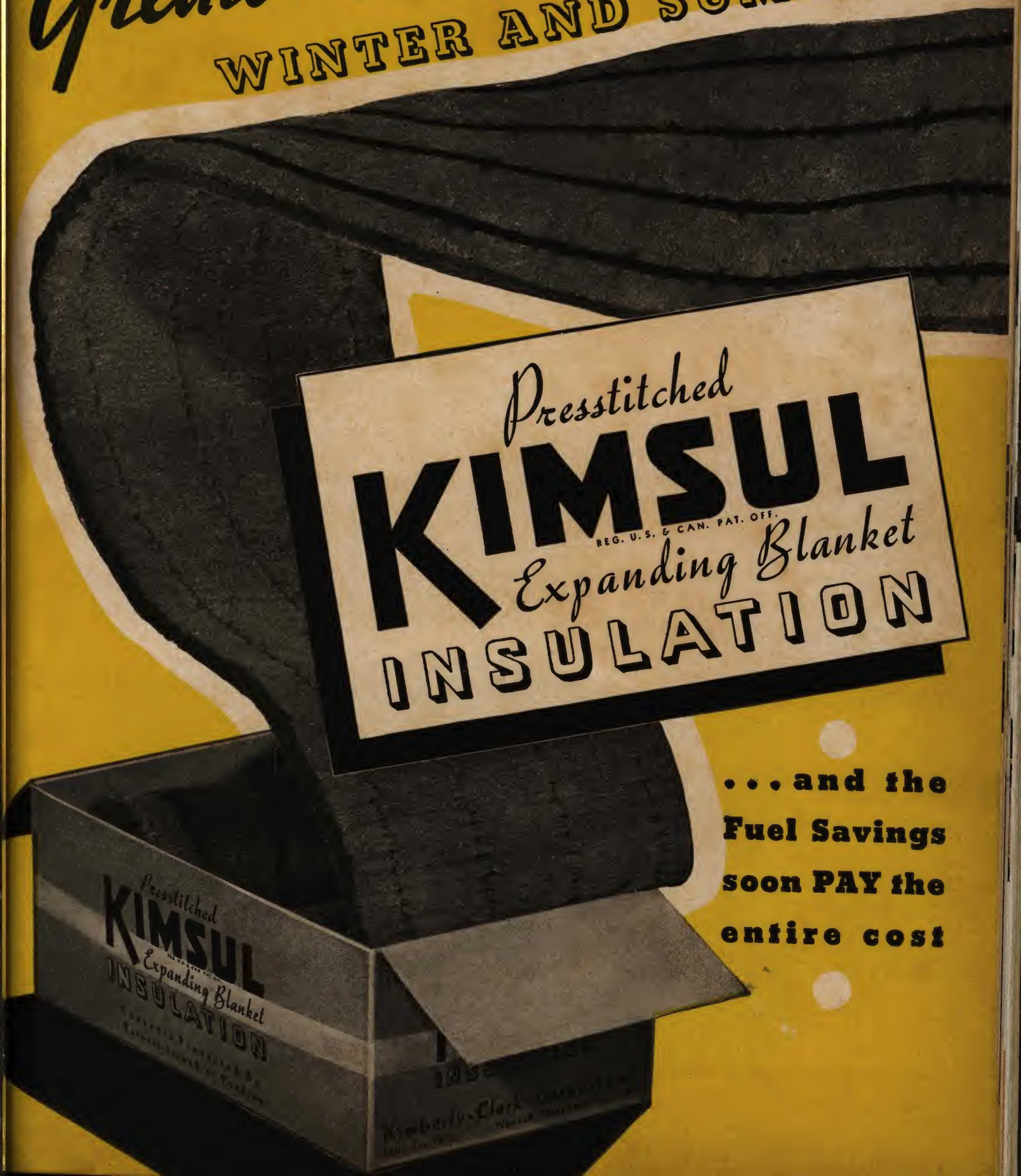
Greater comfort . . .

WINTER AND SUMMER



. . . and the Fuel Savings soon PAY the entire cost

The research and engineering skill Kimberly-Clark has put into Kimsul is most important. Because while all *good* insulation will increase your comfort and cut your fuel bills, Kimsul accomplishes both with substantial *savings* in cost.

As the simplified table at the right shows, Kimsul has been designed to meet the requirements you, your architect, your contractor, and even the man to whom you may sell your home years hence could ask of insulation.

Every INSULATION MATERIAL SHOULD MEET THESE REQUIREMENTS

These factors determine **EFFICIENCY**

These factors determine **PERMANENCE**

These factors determine **COST**

Applicable to Kimsul, this table is equally applicable to all other insulation materials! So, when you study it, ask yourself this question, "What other materials are outstanding not only in Efficiency but in Permanence and Economy as well!"

HOW KIMSUL MEETS THESE REQUIREMENTS

1
Heat blockading power

1. The measure of the heat stopping power of any material is its "K" factor. Kimsul's rating is .27, which is above the average. Actually a home insulated with one inch of Kimsul is better protected against cold and heat than a castle with masonry walls several feet thick.

2
Snugness

2. But mere ability to stop heat isn't enough! Just as the warmest bed clothes won't keep one warm if they are not properly tucked in, so will the best insulation be inefficient if it does not fit snugly. Kimsul is flexible. It can be drawn around corners or tucked behind wires and pipes . . . providing a continuous unbroken blanket of insulation without heat wasting cracks.

3
Thickness

3. Obviously a home in Memphis needs less protection from cold than one in Medicine Hat. To combine maximum comfort with economy, Kimsul is made Commercial, Standard and Double Thickness. The proper thickness for any home is available.

1
Stamina

1. Kimsul is highly resistant to fire and moisture, and fills the need for a worry-free insulation. Being made of creped plies of wood fibres that will not shred or sift, the material itself is inherently lasting.

2
Stability

2. Insulation must stay where it belongs. If it packs down, or pulls away from joists, rafters or studding, it creates "transoms" through which heat escapes. Kimsul is stitched the length of each blanket with rows of strong twine. It does not sag or settle and its thickness remains uniform.

1
Cost of product

1. Per square foot, Kimsul's cost is low.

2
Cost of Installation

2. And: Made in widths to fit snugly between studs and rafters, it eliminates much fitting. Yet, it is quickly and easily cut for spaces of unusual size or shape. Being expandable, it goes up quicker. One man generally can install Kimsul so rapidly that labor costs are lessened.

3
No waste

3. Every bit of Kimsul is usable. Even left over pieces are used for caulking around doors and windows.

4
Shipping and handling charges

4. Kimsul is extremely light. Installed, 1,000 square feet weigh but 129.6 pounds. Being shipped and handled in its compressed form, enough for a moderate sized house can be carried in an automobile. So costs of shipping and handling are also reduced.

How much will Kimsul INCREASE COMFORT?

Every time insulation is mentioned, the phrase "Warmer in winter and cooler in summer" crops up. But, naturally, everyone wants to know . . . "by how much?" One also wants to know how much insulation will cost and how much fuel it will save.

All these are questions which can be answered only in connection with a specific home . . . as the answers vary with the size of the home; its location; heating plant; the type of fuel to be burned, and other individual conditions.

To provide a guide which can be used in estimating the effect of insulation, a theoretical home in Chicago (floor plan and perspective of which are shown below) was used as a basis. And while the figures relating to comfort, fuel savings and cost naturally apply only to that particular house, they give quite a definite idea of what you can expect insulation to do for the home you are planning.

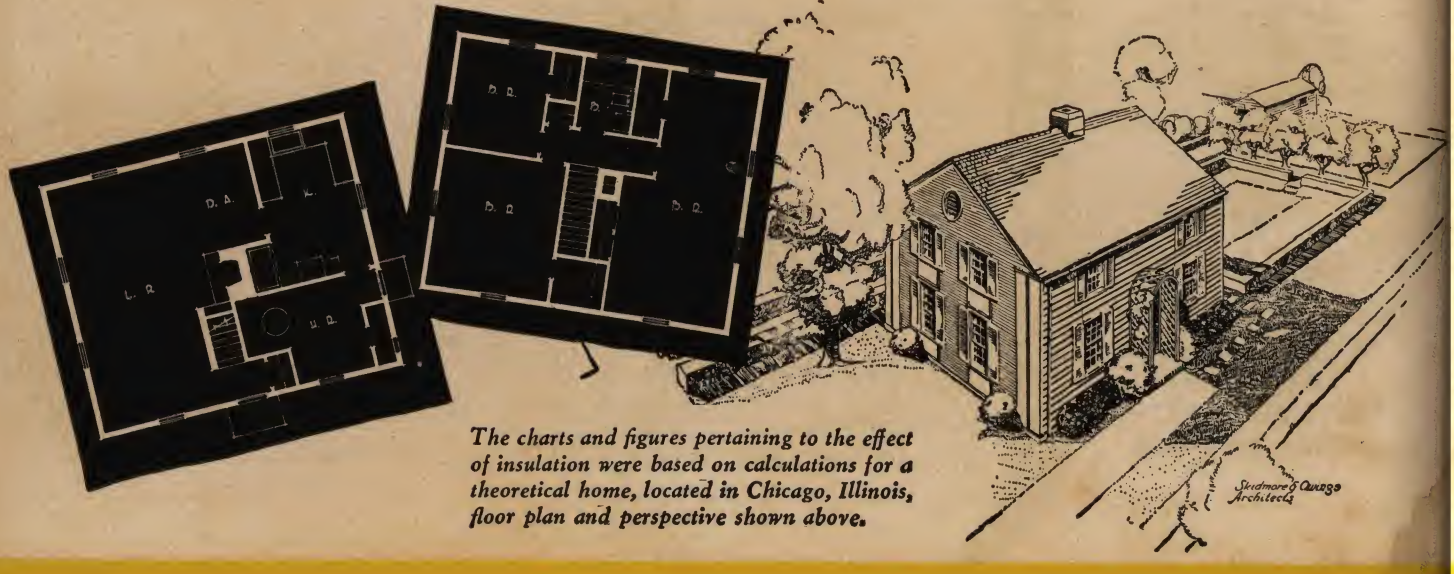
The chart on page 7 shows the effect of insulation on the home pictured below.

Note (under the heading "Maximum Hourly Summer Heat Gain") that if such a house were uninsulated, some 36,345* British Thermal Units of heat would seep in every hour. This means that every 60 minutes enough heat to boil some 20 gallons of water would pass through the walls and roof.

A Standard thick blanket of Kimsul in the walls and upper ceiling (or roof) would shut out 26.4% of that heat.

In winter the increased comfort from Kimsulating is equally important. Note (in the column headed "Total Annual Heating Load") that Standard thick Kimsul in the walls and ceiling would reduce the heat lost by 25.6%.

* A British Thermal Heat Unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.



The charts and figures pertaining to the effect of insulation were based on calculations for a theoretical home, located in Chicago, Illinois, floor plan and perspective shown above.

The Fuel Saved Soon Pays the Cost of

How much Fuel will KIMSUL SAVE?

As important as comfort is the fuel saved by insulating with Kimsul!

Again the exact answer depends on the size, location and architecture of your home and on the type of heating plant and fuel used. But by referring to the table below, in which are summarized the fuel savings in the typical home, you can approximate the savings Kimsul offers closely enough for practical purposes.

Note that this home, when not insulated, requires some 209,200,000 Thermal Units of heat to keep it warm . . . an amount roughly equivalent to 14 tons of coal.

By completely insulating this home with Standard Kimsul, the heat requirements can be reduced 25.6% to 155,700,000 Thermal Units or to a fraction over 11 tons of coal. And even by insulating only the top ceiling with Standard Kimsul, the heat required can be cut by 10% . . . a saving of about one and one-half tons of coal.

In this case Kimsul would save, every year, from one to three tons of coal. If more costly fuel were used, the saving of that amount of heat would be even more important.

Saves on the Cost of the Heating Plant also

And this is only one of the savings good insulation makes possible. Insulation not only reduces the amount of fuel needed to keep a home comfortable, but actually makes it possible to keep a home warm with a smaller, less expensive heating plant.

According to Professor Larson (Head of the Mechanical Engineering Department of the University of Wisconsin) who used his own home as an example:

> $51 spent to insulate the top ceiling with ½-inch of good insulation would effect a $53 savings in the initial cost of the heating plant. And $142 spent to insulate both walls and ceiling would have saved $192 in the cost of the heating equipment.

With these facts in mind, you can see that insulating with Kimsul is one building item which should never be regarded as an expense, but rather as an investment whose entire cost is often paid back in immediate savings on the size of the heating plant and is then paid back, over and over again, by yearly savings on fuel.

HEATING LOAD AND SAVINGS

"Complete" Insulation (Walls and Top Ceiling or Roof)

	No Kimsul	Commercial Kimsul	Standard Kimsul	Double Thick Kimsul
Annual Load*	209,200	169,100	155,700	140,200
Annual Saving*		40,100	53,500	69,000
%Saving		19.2%	25.6%	33.0%
Top Ceiling or Roof Insulation Only				
Annual Load*	209,200	194,200	188,200	182,200
Annual Saving*		15,000	21,000	27,000
%Saving		7.2%	10.0%	12.9%

*Expressed in Thousands of B.T.U.

SUMMER HEAT GAIN AND SAVINGS

"Complete" Insulation (Walls and Top Ceiling or Roof)

	No Kimsul	Commercial Kimsul	Standard Kimsul	Double Thick Kimsul
Hourly Gain#	36,345	28,835	26,732	24,298
Hourly Saving#		7,510	9,613	12,047
%Saving		20.7%	26.4%	33.2%
Top Ceiling or Roof Insulation Only				
Hourly Gain#	36,345	31,550	30,340	28,889
Hourly Saving#		4,795	6,005	7,456
%Saving		13.2%	16.5%	20.5%

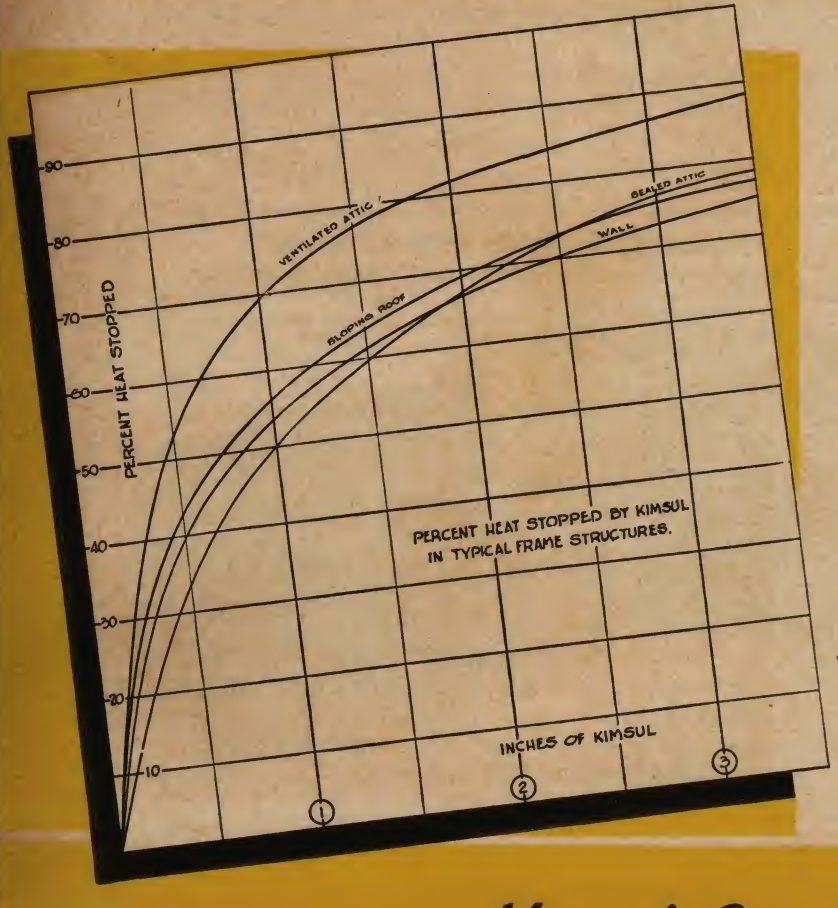
#Expressed in B.T.U.

How much, and what thickness of Kimsul do you need?

In the average uninsulated home the heat wasted through walls and ceilings is divided about 60% through the walls and about 40% through the upper ceiling or roof. The diagram below shows how much of this heat can be saved with different thicknesses of Kimsul.

Note that even Commercial thickness stops a lot of heat from escaping . . . the percentage increasing as a greater thickness of insulation is used. However, experience shows that a Standard Kimsul blanket generally provides the greatest comfort and fuel saving at the least cost, thus giving the best return on the insulation investment.

Obviously, if you live in a region subject to severe winters . . . or fuel is high in price . . . it is an advantage, both from the standpoint of economy and comfort, to use a greater thickness. And in this fact lies one of Kimsul's outstanding advantages.





1. *A Standard blanket KIMSUL, insulating a ing roof stops approxima 58.6% of the heat would otherwise be through it.*

2. *A Standard blanket KIMSUL, insulating the ceiling below a ventilate attic (an attic with window or louver openings) save about 70% of the heat tha otherwise escapes through it.*

3. *Standard KIMSUL in the side and end walls will save about 54% of the heat that would otherwise escape through them.*

4. *Complete insulation of walls and roof with Standard KIMSUL will save up to 57% of the heat that would otherwise escape through them.*

For once you determine, with the help of your contractor or architect, the thickness of insulation which is best for your home, you can get that thickness in Kimsul.

Partial Insulation is Good—Complete Insulation is Better

While the question of the proper thickness of insulation depends on climate, and the cost of fuel, there is no question about the *extra value in completely insulating a home.* The time to insulate is when you are building. Once your walls have been finished, it is not only costly but sometimes impossible to get complete insulation which will be permanently satisfactory.

Of course, if your home is already built, you can save up to 70% of that 40% of the heat which is now escaping through your roof by insulating your top ceiling, with Kimsul. But remember, 60% of the total heat lost in an uninsulated home escapes through the side walls. So you can't reap the greatest advantage in Kimsulating unless *both* walls and roof or upper ceiling are protected.

The best part of it is that when you use Kimsul you can afford to do a complete job. As the typical examples of cost on the next page show, Kimsul is so economical that it is wasteful to skimp on your insulating job.

How much does it Cost to INSULATE WITH KIMSUL?

Actually the correct answer to that question might well be "Nothing"! And the same would apply to any other good insulation.

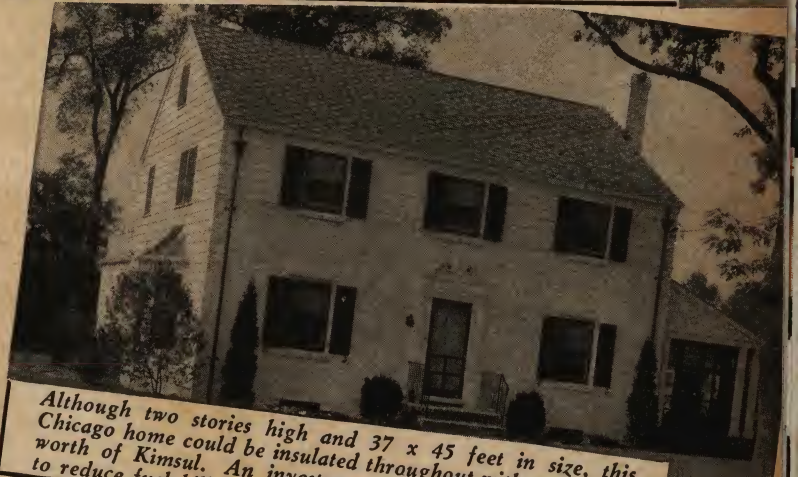
Good insulation, properly installed, will generally pay for itself in a few years through the fuel it saves. And in many new homes the initial cost is saved *immediately* because of the smaller and lower priced heating plant required.

However, the less insulation costs initially, the greater the return on the insulation investment. A few typical homes are shown which indicate the economy of Kimsul. In all likelihood, one of them corresponds closely enough to the home you are planning, to give you a fairly good idea of what it will cost you to Kimsulate. Or, your architect or builder can quickly figure it for you.

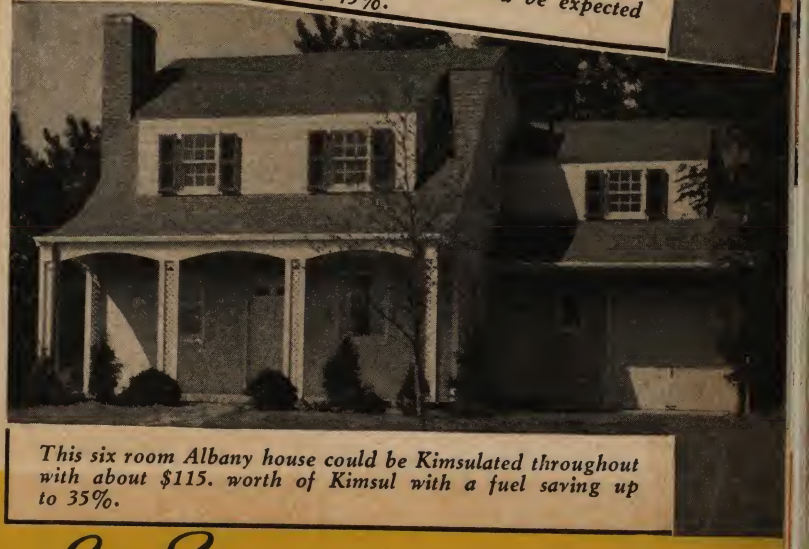
A glance at the next two pages, which show how quickly and easily Kimsul can be installed, will demonstrate some of the many reasons why Kimsulating is so inexpensive.



About $91. worth of Kimsul will insulate the walls and roof of this six room Minneapolis house and make possible savings up to 37.9% in the annual fuel bill.



Although two stories high and 37 x 45 feet in size, this Chicago home could be insulated throughout with only $135. worth of Kimsul. An investment which could be expected to reduce fuel bills by about 45%.



This six room Albany house could be Kimsulated throughout with about $115. worth of Kimsul with a fuel saving up to 35%.

Here's How KIMSUL Reduces Installation Costs



Nail on at top with a short piece of lath and two nails.



Grasp Kimsul with both hands and expand until stitch lines are taut.



Attach to floor plate with lath and nails and cut off.

Usually one man can do the job . . . easily and quickly. No special tools or experience are required. And Kimsul is so light, flexible and clean, that men enjoy working with it.

Goes up in a "Jiffy"

Using the shipping carton as a dispensing container, the end of a Kimsul blanket is first expanded for about 6 inches and fastened to the under side of top plate between studs with a piece of lath and a couple of nails. Then the blanket is grasped with both hands and expanded some 5½ times its compressed length.

The strong twine stitching is then taut and supports the blanket in place. Finally Kimsul is attached to the upper side of the floor or bottom plate and cut off with a hatchet, knife or scissors. That's all there is to it.

It's There to Stay!

Installed this way you'll never need to think about the permanence of your Kimsul installation. It resists fire and moisture and, most important perhaps to you, it stays where it belongs.

For Kimsul with its many individual plies, creped to give a multitude of air spaces, and strongly stitched together, does not overstretch, sag or settle.

Sloping Roofs Are Easy To Kimsulate

The Kimsul blanket should first be expanded the needed length and cut off. Then, starting from the bottom, it is fastened to the rafter plate, then to the ridge board with lath and nails. Laths tacked across framing members (see photo) provide temporary support for blanket until ends are fastened in place.

Then to make a snug, tight fitting job, lengths of lath are nailed along the edges of the Kimsul blanket, into the rafters . . . or by using a blanket slightly wider than the rafter spacing, Kimsul can be made to provide its own rafter tacking strip. These methods, by providing air space between the Kimsul blanket and the roof, considerably increase the heat stopping power of the roof as a whole.

On Attic Floors

Exposed attic floors are easiest of all to Kimsulate. A single length of blanket expanded until stitch lines are taut, and fastened at plates, will completely cover entire areas between joists.

No Waste

Pieces left over from insulating other spaces, crammed into small spaces around doors and windows (see photo lower right) effectually insulate such areas against infiltration losses.

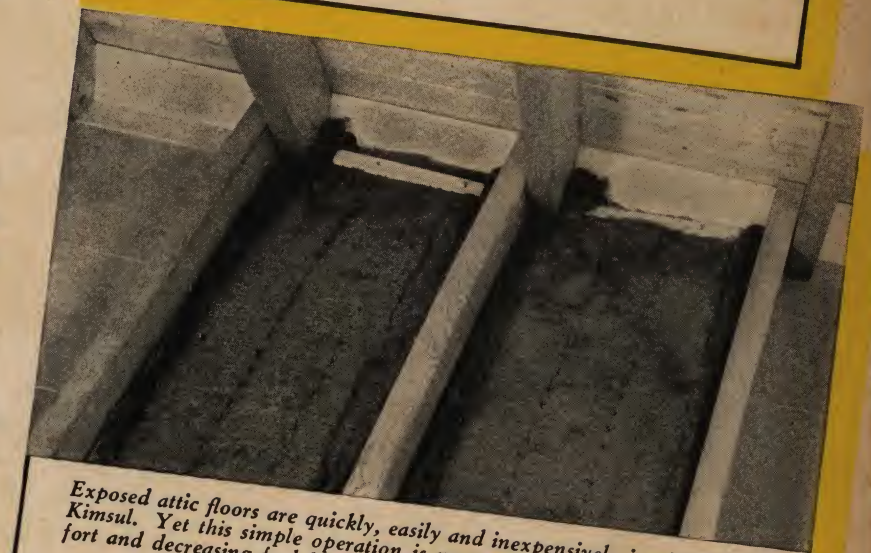
Condensation Control

Wherever the difference between outdoor and inside temperatures is great enough to cause condensation, the final step in insulating . . . regardless of the insulation used . . . should be the installation of a vapor seal.

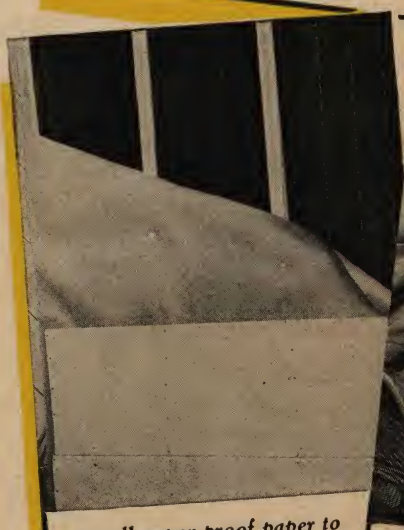
Condensation may take place in walls in localities subject to low outside temperatures—especially when the inside relative humidity is carried above 30%. When this condition exists it is recommended that a vapor seal paper be installed on the inside face of framing members *after* KIMSUL is in place. When application is made in this manner, with the vapor seal separate from the insulation, the job of insulating and vapor sealing is more quickly and easily done, all surfaces are completely and uniformly insulated and a continuous, unbroken vapor seal is obtained.



Sloping roofs, usually the most difficult of insulating jobs, are generally an easy "one-man" job with Kimsul! Laths nailed across framing members provide temporary support.



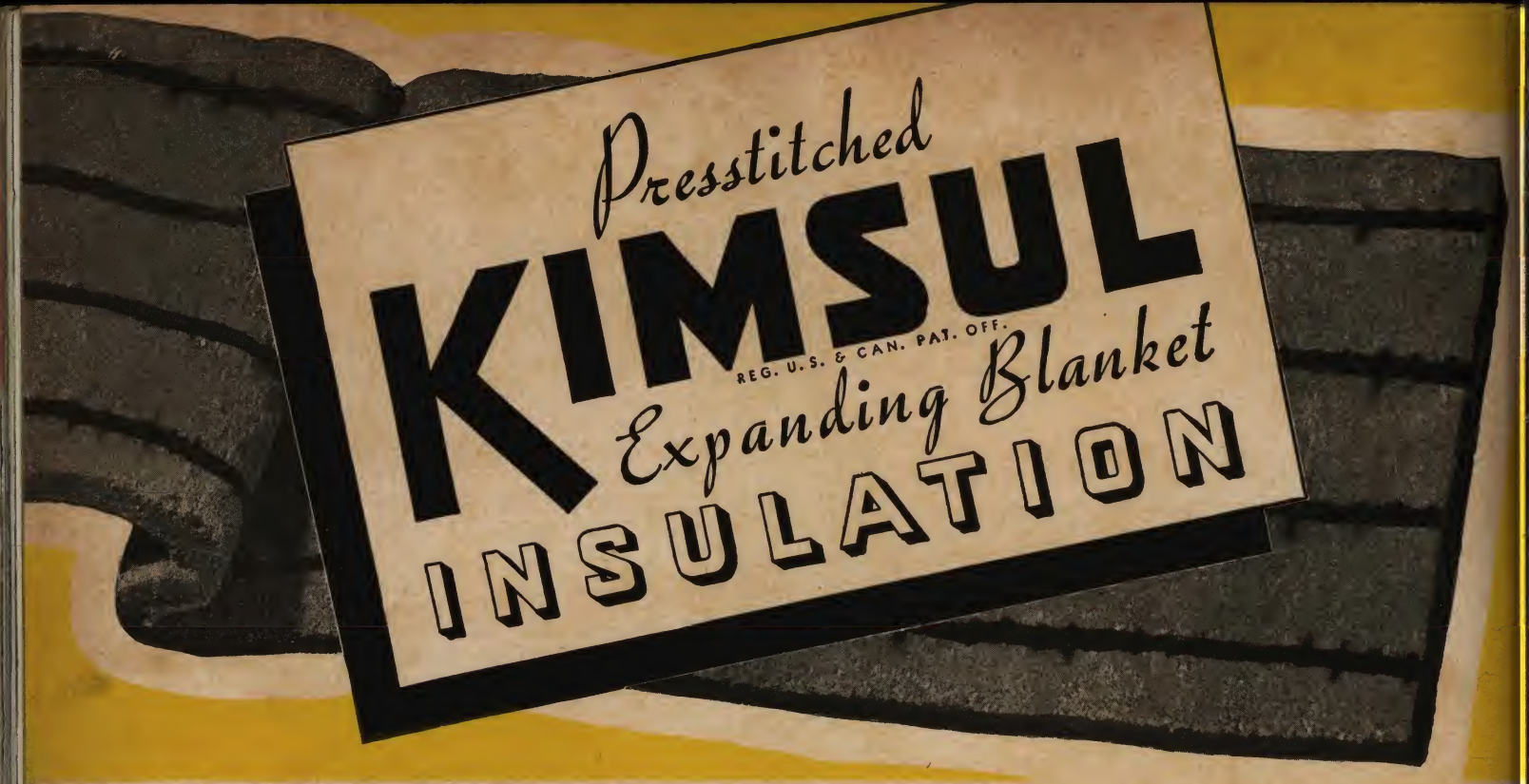
Exposed attic floors are quickly, easily and inexpensively insulated with Kimsul. Yet this simple operation is most effective in increasing comfort and decreasing fuel bills.



Install vapor proof paper to face of framing members on warm side of wall before applying lath and plaster.



Scraps of Kimsul make ideal caulking material for around doors and windows.



Who Makes Kimsul?

Kimsul was developed and is manufactured by the Kimberly-Clark Corporation . . . of international importance for 67 years in the manufacture of wood fibre products. Every stage in its manufacture is under the watchful scrutiny of skilled men of experience. Hence, the Kimsul installed in your home can be expected to be of uniform quality fully up to the rigid manufacturing requirements set by Kimberly-Clark.

Where to Buy Kimsul

Leading Building Material and Lumber Dealers carry Kimsul in stock, or can secure it for you from conveniently located distributors. It is sold only through recognized dealers.

Ask Your Architect or Contractor

Architects, Contractors and Builders know the value of good insulation . . . what it can add to your comfort, winter and summer . . . and how effectively it can decrease your fuel bills.

We suggest you consult them not only in regard to insulation, but in connection with every investment or improvement you wish to make in a home.

KIMBERLY-CLARK CORPORATION, ***Manufacturers***
ESTABLISHED 1872
(Kimsul Division)
8 SOUTH MICHIGAN AVENUE, CHICAGO

. . . for Greater Comfort Winter & Summer

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